

Dell™ E228WFP Flat Panel Monitor User's Guide

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Notes, Notices, and Cautions



NOTE: A NOTE indicates important information that helps you make better use of your computer.



NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

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Model E228WFP

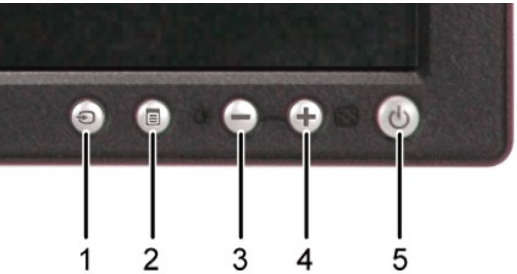
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About Your Monitor

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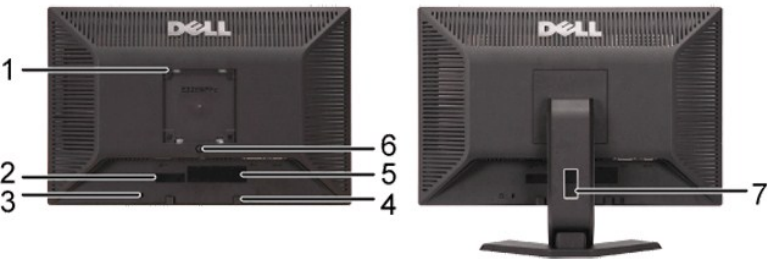
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Front View



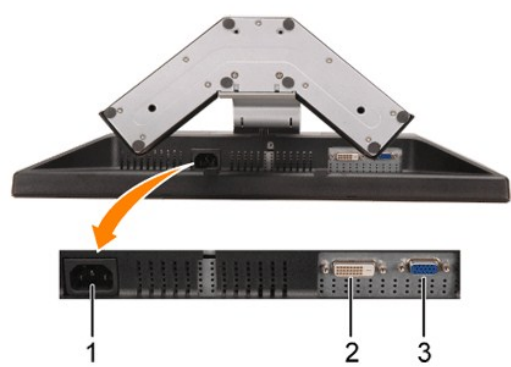
1.	Input source select button
2.	OSD menu / select button
3.	Brightness & Contrast / Down (-) button
4.	Auto-adjust / Up (+) button
5.	Power button (with power light indicator)

Back View



1	VESA mounting holes (100mm) (Behind attached VESA plate)	Use to mount the monitor with VESA compliance (100mm) bracket.
2	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.
3	Security lock slot	Use a security lock with the slot to help secure your monitor.
4	Dell Soundbar mounting brackets	Attach the optional Dell Soundbar.
5	Regulatory rating label	List the regulatory approvals.
6	Stand removal button	Press to release the stand from the monitor.
7	Cable management hole	Help organize cables by placing them through the hole.

Bottom View



1	Power connector	Insert the power cable.
2	DVI connector	Connect your computer DVI cable.
3	VGA connector	Connect your computer VGA cable.

Side View



Left side



Right side

Monitor Specifications

Power Management Modes

If you have VESA's DPM™ compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. This is referred to as 'Power Save Mode'*. If input from keyboard, mouse, or other input devices is detected by the computer, the monitor automatically 'wakes up'. The following table shows the power consumption and signaling of this automatic power saving feature:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	Green	45 W (typical)
Active-off mode	Inactive	Inactive	Blanked	Amber	Less than 2 W
Switch off	-	-	-	Off	Less than 1 W

 **NOTE:** The OSD only functions in the 'normal operation' mode. One of the following messages appears when the "menu" or "plus" buttons are pressed when in Active-off mode.

1: Auto detect
In Power Save Mode
Press computer power button
or any key on keyboard or move mouse

or

2: Analog Input
In Power Save Mode
Press computer power button
or any key on keyboard or move mouse

or

3: Digital Input
In Power Save Mode
Press computer power button
or any key on keyboard or move mouse

Activate the computer and 'wake up' the monitor to gain access to the [OSD](#).

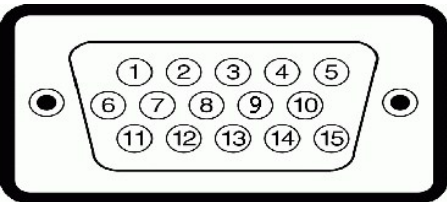
This monitor is **ENERGY STAR**®-compliant as well as TCO '99 power management compatible.



* Zero power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.

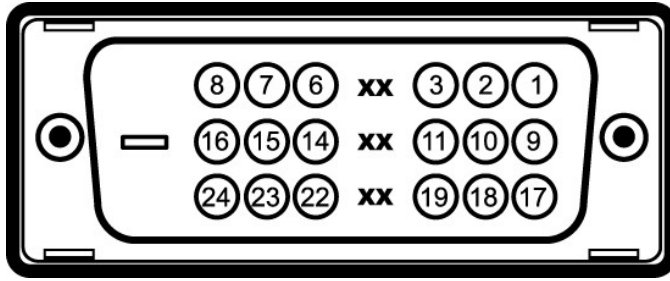
Pin Assignments

15-pin D-Sub connector



Pin Number	Monitor Side of the 15-pin Side Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	GND
5	Self-test
6	GND-R
7	GND-G
8	GND-B
9	DDC +5V
10	GND-sync
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

24-pin Digital-Only DVI Connector



Note: Pin 1 is at the top right.

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 1-	17	T.M.D.S. Data 0-
2	T.M.D.S. Data 2+	10	T.M.D.S. Data 1+	18	T.M.D.S. Data 0+
3	T.M.D.S. Data 2 Shield	11	T.M.D.S. Data 1 Shield	19	T.M.D.S. Data 0 Shield
4	No Pin	12	No Pin	20	No Pin
5	No Pin	13	No Pin	21	No Pin
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock +
8	No Connect	16	Hot Plug Detect	24	T.M.D.S. Clock -

Plug and Play Capability

You can install the monitor in any Plug and Play-compatible system. The monitor automatically provides the computer system with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so that the system can configure itself and optimize the monitor settings. If desired, you can select different settings, but in most cases monitor installation is automatic.

General

Model numberE228WFP

Screen type	Active matrix - TFT LCD
Screen dimensions	22 inches (22-inch viewable image size)
Preset display area:	
Horizontal	473.76 mm (18.65 inches)
Vertical	296.1 mm (11.66 inches)
Pixel pitch	0.282 mm
Viewing angle	160° (vertical) typ, 160° (horizontal) typ
Luminance output	300 CD/m ² (typ)
Contrast ratio	800 to 1 (typ)
Faceplate coating	Antiglare with hard-coating 3H
Backlight	CCFL edgelight system
Response Time	5ms typical

Resolution

Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 75 Hz (automatic)
Optimal preset resolution	1680 x 1050 at 60 Hz
Highest preset resolution	1680 x 1050 at 60 Hz
Video display capabilities(DVI HD playback)	480p/576p/720p

Preset Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/ Vertical)
VESA, 720 x 400	31.5	70.0	28.3	-/+
VESA, 640 x 480	31.5	60.0	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	37.9	60.3	49.5	+/+
VESA, 800 x 600	46.9	75.0	49.5	+/+
VESA, 1024 x 768	48.4	60.0	65.0	-/-
VESA, 1024 x 768	60.0	75.0	78.8	+/+
VESA, 1152 x 864	67.5	75.0	108	+/+
VESA, 1280 x 1024	64.0	60.0	135.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1680 x 1050	65.0	60.0	146.25	+/+

Electrical

Video input signals	Analog RGB, 0.7 Volts +/-5%, positive polarity at 75 ohm input impedance Digital DVI-D TMDS, 600mV for each differential line, positive polarity at 50 ohm input impedance with HDCP support
Synchronization input signals	Separate horizontal and vertical synchronizations, polarity-free TTL level
AC input voltage / frequency / current	100 to 240 VAC / 50 or 60 Hz $\pm$ 3 Hz / 1.5A
Inrush current	120V:30A (Max.) 240V:60A (Max.)

Physical Characteristics

Connector type	15-pin D-subminiature, blue connector; DVI-D, white connector
Signal cable type	Digital: Detachable, DVI-D, Solid pins, shipped detached from the monitor Analog: Detachable, D-Sub, 15pins, shipped attached to the monitor
Dimensions (with stand):	
Height	16.10 inches (409.10 mm)
Width	20.12 inches (511.14 mm)
Depth	5.87 inches (149.16 mm)
Dimensions: (without stand)	
Height	13.13 inches (333.54 mm)
Width	20.12 inches (511.14 mm)
Depth	2.56 inches (65.00 mm)
Stand dimensions:	
Height	11.92 inches (302.83 mm)
Width	12.20 inches (309.93 mm)
Depth	5.90 inches (149.98 mm)
Weight with packaging	20.94 lbs (9.5 kg)

Weight with stand assembly and cables	15.65 lbs (7.1 kg)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	11.46 lbs (5.2 kg)
Weight of stand assembly	2.65 lbs (1.2 kg)

Environmental

Temperature:	
Operating	5° to 35°C (41° to 95°F)
Nonoperating	Storage: -20° to 60°C (-4° to 140°F) Shipping: -20° to 60°C (-4° to 140°F)
Humidity:	
Operating	10% to 80% (noncondensing)
Nonoperating	Storage: 5% to 90% (noncondensing) Shipping: 5% to 90% (noncondensing)
Altitude:	
Operating	3,657.6m (12,000 ft) max
Nonoperating	12,192 m (40,000 ft) max
Thermal dissipation	256.08 BTU/hour (maximum) 119.5 BTU/hour (typical)

LCD Monitor Quality & Pixel Policy

During the LCD Monitor manufacturing process, it is not uncommon for one or more pixels to become fixed in an unchanging state. The visible result is a fixed pixel that appears as an extremely tiny dark or bright discolored spot. In almost every case, these fixed pixels are hard to see and do not detract from display quality or usability. A display with 1 to 5 fixed pixels is considered normal and within competitive standards. For more information, see Dell Support site at: support.dell.com

Caring for Your Monitor

-  **CAUTION:** Read and follow the [safety instructions](#) before cleaning the monitor.
-  **CAUTION:** Before cleaning the monitor, unplug the monitor power cable from the electrical outlet.

- ┆ To clean your antistatic screen, slightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the antistatic coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.
 - ┆ Use a slightly-dampened, warm cloth to clean the plastics. Avoid using detergent of any kind as some detergents leave a milky film on the plastics.
 - ┆ If you notice a white powder when you unpack your monitor, wipe it off with a cloth. This white powder occurs during the shipping of the monitor.
 - ┆ Handle your monitor with care as darker-colored plastics may scratch and show white scuff marks more than lighter-colored monitor.
 - ┆ To help maintain the best image quality on your monitor, use a dynamically changing screen saver and power off your monitor when not in use.
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Appendix

Dell™ E228WFP Flat Panel Monitor

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● [CAUTION: Safety Instruction](#)

● [Contacting Dell](#)

FCC Identification Information

FCC Notice (U.S. Only)

FCC Class B

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 2 This device must accept any interference received, including interference that may cause undesired operation.

 **NOTICE:** The FCC regulations provide that changes or modifications not expressly approved by Dell Inc. could void your authority to operate this equipment.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- 1 Reorient the receiving antenna.
- 1 Relocate the system with respect to the receiver.
- 1 Move the system away from the receiver.
- 1 Plug the system into a different outlet so that the system and the receiver are on different branch circuits.

If necessary, consult a representative of Dell Inc. or an experienced radio/television technician for additional suggestions.

The following information is provided on the device or devices covered in this document in compliance with the FCC regulations:

- 1 Product name: E228WFP
- 1 Model number: E228WFPc
- 1 Company name:

Dell Inc.

Worldwide Regulatory Compliance & Environmental Affairs

One Dell Way

Round Rock, TX 78682 USA 512-338-4400

CAUTION: Safety Instruction



CAUTION: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.

Read and follow these instructions when connecting and using your computer monitor:

- 1 To help avoid damaging your computer, be sure that the voltage selection switch on the power supply for the computer is set to match the alternating current (AC) power available at your location:
 - o 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as Japan, South Korea (also 220 volts (V)/60 hertz (Hz)), and Taiwan.
 - o 230 volts (V)/50 hertz (Hz) in most of Europe, the Middle East, and the Far East.
- Always be sure that your monitor is electrically rated to operate with the AC power available in your location.



NOTE: This monitor does not need or have a voltage selection switch for setting the AC voltage input. It will automatically accept any AC input voltage defined in the "Electrical Specifications" section.

- 1 Do not store or use the LCD monitor in locations that are exposed to heat, direct sunlight, or extreme cold.
- 1 Avoid moving the LCD monitor between locations with large temperature differences.
- 1 Do not subject the LCD monitor to severe vibration or high impact conditions. For example, do not place the LCD monitor inside a car trunk.
- 1 Do not store or use the LCD monitor in locations exposed to high humidity or dusty environment.
- 1 Do not allow water or other liquids to spill on or into the LCD monitor.
- 1 Keep flat panel monitor in room temperature conditions. Excessive cold or hot conditions can have an adverse effect on the liquid crystal of the display.
- 1 Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.
- 1 To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor case.
- 1 Never use your monitor if the power cable has been damaged. Do not allow anything to rest on the power cable. Keep the power cable away from where people could trip over it.
- 1 Be sure to grasp the plug, not the cable, when disconnecting the monitor from an electric socket.
- 1 Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Avoid using the monitor on a bed, sofa, rug, or other soft surface, as doing so may block the ventilation openings in the bottom of the cabinet. If you place the monitor in a bookcase or an enclosed space, be sure to provide adequate ventilation and air flow.

- 1 Place your monitor in a location with low humidity and minimum dust. Avoid places similar to a damp basement or dusty hallway.
- 1 Do not expose the monitor to rain or use it near water (in kitchens, next to swimming pools, etc.). If the monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the monitor with a damp cloth when necessary, being sure to unplug the monitor first.
- 1 Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped or hit sharply.
- 1 Locate your monitor near an easily accessible electric outlet.
- 1 If your monitor does not operate normally - in particular, if there are any unusual sounds or smells coming from it - unplug it immediately and contact an authorized dealer or service center.
- 1 Do not attempt to remove the back cover, as you will be exposed to an electrical shock hazard. The back cover should only be removed by qualified service personnel.
- 1 High temperatures can cause problems. Don't use your monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- 1 Unplug the monitor when it is going to be left unused for an extended period of time.
- 1 Unplug your monitor from the electric outlet before any service is performed.
- 1 Hg Lamp(s) inside this product contains mercury and must be recycled or disposed of according to local, state or federal laws. For more information, Go Or contact the electronic industries alliance: <http://www.eiae.org> for more information.

Contacting Dell

You can contact Dell through the Internet and by phone:

- 1 For support through the web, go to support.dell.com.
- 1 For worldwide support through the web, use the *Choose A Country/Region* menu near the bottom of the page, or see the web addresses listed in the following table.
- 1 For support by e-mail, see the e-mail addresses listed in the following table.

 **NOTE:** Toll-free numbers are for use within the country for which they are listed.

 **NOTE:** In certain countries, support specific to Dell? XPS? computers is available at a separate telephone number listed for participating countries. If you do not see a telephone number listed that is specific for XPS computers, you may contact Dell through the support number listed and your call will be routed appropriately.

- 1 For support by phone, use the phone numbers and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.

 **NOTE:** The contact information provided was deemed correct at the time that this document went to print and is subject to change.

Country (City) International Access Code Country Code City Code	Service Type	Area Codes, Local Numbers, and Toll-Free Numbers Web and E-mail Address
Anguilla	Online Support	www.dell.com/ai
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 800-335-0031
Antigua and Barbuda	Online Support	www.dell.com.ag
	Technical Support, Customer Service, Sales	la-techsupport@dell.com
		1-800-805-5924
Aomen Country Code: 853	Technical Support	toll-free: 0800-105
	Customer Service (Xiamen, China)	34 160 910
	Transaction Sales (Xiamen, China)	29 693 115
Argentina (Buenos Aires) International Access Code: 00 Country Code: 54 City Code: 11	Online Support	www.dell.com.ar
	E-mail for Desktops and Portables	la-techsupport@dell.com
	E-mail for Servers and EMC ® Storage Products	la_enterprise@dell.com
	Customer Service	toll-free: 0-800-444-0730
	Technical Support - Dell PowerApp™, Dell PowerEdge™, Dell PowerConnect™, and Dell PowerVault™	toll-free: 0-800-222-0154
	Technical Support Services	toll-free: 0-800-444-0724
	Sales	0-810-444-3355
Aruba	Online Support	www.dell.com.aw
	Technical Support, Customer Service, Sales	la-techsupport@dell.com
		toll-free: 800-1578
Australia (Sydney) International Access Code: 0011 Country Code: 61 City Code: 2	Online Support	support.ap.dell.com
	Technical Support	support.ap.dell.com/contactus
	Technical Support for XPS computers only	toll-free: 1300 790 877
	Home and Home Office	toll-free: 1300-655-533
	Medium and Large Business	toll-free: 1800-633-559
	Small Business, Education, Local Government	toll-free: 1800-060-889
	Customer Service	toll-free: 1300-662-196
Austria (Vienna) International Access Code: 900 Country Code: 43	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	tech_support_central_europe@dell.com
	Home/Small Business Sales	08 20 24 05 30 81
	Home/Small Business Fax	08 20 24 05 30 00
	Home/Small Business Customer Service	08 20 24 05 30 49

City Code: 1	Home/Small Business Support	08 20 24 05 30 17
	Preferred Accounts/Corporate Customer Service	08 20 24 05 30 16
	Preferred Accounts/Corporate Support	08 20 24 05 30 17
	Switchboard	08 20 24 05 30 00
Bahamas	Online Support	www.dell.com/bs
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-874-3038
Barbados	Online Support	www.dell.com/bb
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-800-534-3142
Belgium (Brussels) International Access Code: 00 Country Code: 32 City Code: 2	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	02 481 92 96
	General Support	02 481 92 88
	General Support Fax	02 481 92 95
	Customer Service	02 713 15 65
	Corporate Sales	02 481 91 00
	Fax	02 481 92 99
	Switchboard	02 481 91 00
Bermuda	Online Support	www.dell.com/bm
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-877-890-0751
Bolivia	Online Support	www.dell.com/bo
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 800-10-0238
Brazil International Access Code: 00 Country Code: 55 City Code: 51	Online Support	www.dell.com/br
		BR_TechSupport@dell.com
	Customer Service and Tech Support	0800 970 3355
	Technical Support Fax	51 2104 5470
	Customer Service Fax	51 2104 5480
British Virgin Islands	Sales	0800 970 3390
	Technical Support, Customer Service, Sales	toll-free: 1-866-278-6820
Brunei Country Code: 673	Technical Support (Penang, Malaysia)	604 633 4966
		604 633 3101
	Customer Service (Penang, Malaysia)	or toll-free: 801 1012
		604 633 3101
	Transaction Sales (Penang, Malaysia)	or toll-free: 801 1012
Canada (North York, Ontario) International Access Code: 011	Online Order Status	www.dell.ca/ostatus
	Online Support	support.ca.dell.com
	AutoTech (automated Hardware and Warranty Support)	toll-free: 1-800-247-9362
	Customer Service	
	Home/Home Office	toll-free: 1-800-847-4096
	Small Business	toll-free: 1-800-906-3355
	Medium/Large Business, Government, Education	toll-free: 1-800-387-5757
	Hardware Warranty Phone Support	
	XPS Computers Only	toll-free: 1-866-398-8977
	Computers for Home/Home Office	toll-free: 1-800-847-4096
	Computers for Small/Medium/Large Business, Government	toll-free: 1-800-387-5757
	Printers, Projectors, Televisions, Handheld, Digital Jukebox, and Wireless	1-877-335-5767
	Sales	
	Home and Home Office Sales	toll-free: 1-800-999-3355
	Small Business	toll-free: 1-800-387-5752
	Medium/Large Business, Government	toll-free: 1-800-387-5755
	Spare Parts and Extended Service	1 866 440 3355
Cayman Islands	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-877-262-5415
Chile (Santiago) Country Code: 56 City Code: 2	Online Support	www.dell.com/cl
		la-techsupport@dell.com
	Sales and Customer Support	toll-free: 1230-020-3397
		or 800-20-1385
	Online Support	support.dell.com.cn
	Technical Support E-mail	support.dell.com.cn/email
	Customer Service E-mail	customer_cn@dell.com
	Technical Support Fax	592 818 1350
	Technical Support - XPS computers only	toll-free: 800 858 0540

China (Xiamen) Country Code: 86 City Code: 592	Technical Support - Dell™ Dimension™ and Dell Inspiron™	toll-free: 800 858 2969
	Technical Support - Dell OptiPlex™, Dell Latitude™, and Dell Precision™	toll-free: 800 858 0950
	Technical Support - Servers and Storage	toll-free: 800 858 0960
	Technical Support - Projectors, PDAs, Switches, Routers, etc.	toll-free: 800 858 2920
	Technical Support - Printers	toll-free: 800 858 2311
	Customer Service	toll-free: 800 858 2060
	Customer Service Fax	592 818 1308
	Home and Small Business	toll-free: 800 858 2222
	Preferred Accounts Division	toll-free: 800 858 2557
	Large Corporate Accounts GCP	toll-free: 800 858 2055
	Large Corporate Accounts Key Accounts	toll-free: 800 858 2628
	Large Corporate Accounts North	toll-free: 800 858 2999
	Large Corporate Accounts North Government and Education	toll-free: 800 858 2955
	Large Corporate Accounts East	toll-free: 800 858 2020
	Large Corporate Accounts East Government and Education	toll-free: 800 858 2669
	Large Corporate Accounts Queue Team	toll-free: 800 858 2572
	Large Corporate Accounts South	toll-free: 800 858 2355
	Large Corporate Accounts West	toll-free: 800 858 2811
	Large Corporate Accounts Spare Parts	toll-free: 800 858 2621
Colombia	Online Support	www.dell.com/co
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	01-800-915-4755
Costa Rica	Online Support	www.dell.com/cr
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-012-0231
Czech Republic (Prague) International Access Code: 00 Country Code: 420	Online Support	support.euro.dell.com
		czech_dell@dell.com
	Technical Support	22537 2727
	Customer Service	22537 2707
	Fax	22537 2714
	Technical Fax	22537 2728
	Switchboard	22537 2711
Denmark (Copenhagen) International Access Code: 00 Country Code: 45	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	7010 0074
	Technical Support	7023 0182
	Customer Service - Relational	7023 0184
	Home/Small Business Customer Service	3287 5505
	Switchboard - Relational	3287 1200
	Switchboard Fax - Relational	3287 1201
	Switchboard - Home/Small Business	3287 5000
	Switchboard Fax - Home/Small Business	3287 5001
Dominica	Online Support	www.dell.com/dm
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-278-6821
Dominican Republic	Online Support	www.dell.com/do
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-800-156-1588
Ecuador	Online Support	www.dell.com/ec
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales (calling from Quito)	toll-free: 999-119-877-655-3355
El Salvador		
	Online Support	www.dell.com/sv
		la-techsupport@dell.com
Finland (Helsinki) International Access Code: 990 Country Code: 358 City Code: 9	Technical Support, Customer Service, Sales	800-6132
	Online Support	support.euro.dell.com
		fi_support@dell.com
	Technical Support	0207 533 555
	Customer Service	0207 533 538
	Switchboard	0207 533 533
	Fax	0207 533 530
	Sales under 500 employees	0207 533 540
	Sales over 500 employees	0207 533 533
	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	0825 387 129
	Home and Small Business	

France (Paris) (Montpellier)	Technical Support	0825 387 270
	Customer Service	0825 823 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	Corporate	
	Technical Support	0825 004 719
	Customer Service	0825 338 339
	Switchboard	01 55 94 71 00
	Sales	01 55 94 71 00
	Fax	01 55 94 71 01
Germany (Frankfurt)	Online Support	support.euro.dell.com
		tech_support_central_europe@dell.com
	Technical Support for XPS computers only	069 9792 7222
	Technical Support	069 9792-7200
	Home/Small Business Customer Service	0180-5-224400
	Global Segment Customer Service	069 9792-7320
	Preferred Accounts Customer Service	069 9792-7320
	Large Accounts Customer Service	069 9792-7320
	Public Accounts Customer Service	069 9792-7320
	Switchboard	069 9792-7000
Greece	Online Support	support.euro.dell.com
	Technical Support	00800-44 14 95 18
	Gold Service Technical Support	00800-44 14 00 83
	Switchboard	2108129810
	Gold Service Switchboard	2108129811
	Sales	2108129800
Grenada	Fax	2108129812
Grenada	Online Support	www.dell.com/gd
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-540-3355
Guatemala	Online Support	www.dell.com/gt
		la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-800-999-0136
Guyana	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-877-270-4609
Hong Kong	Online Support	support.ap.dell.com
		support.dell.com.cn/email
	Technical Support - XPS computers only	00852-3416 6923
	Technical Support - Dimension and Inspiron	00852-2969 3188
	Technical Support - OptiPlex, Latitude, and Dell Precision	00852-2969 3191
	Technical Support - Servers and Storage	00852-2969 3196
	Technical Support - Projectors, PDAs, Switches, Routers, etc.	00852-3416 0906
	Customer Service	00852-3416 0910
	Large Corporate Accounts	00852-3416 0907
	Global Customer Programs	00852-3416 0908
	Medium Business Division	00852-3416 0912
	Home and Small Business Division	00852-2969 3105
India	Online Support	support.ap.dell.com
	Portable and Desktop Support	
	Desktop Support E-mail	india_support_desktop@dell.com
	Portable Support E-mail	india_support_notebook@dell.com
	Phone Numbers	080-25068032 or 080-25068034 or your city STD code + 60003355 or toll-free: 1-800-425-8045
	Server Support	
	E-mail	india_support_Server@dell.com
	Phone Numbers	080-25068032 or 080-25068034 or your city STD code + 60003355 or toll-free: 1800 425 8045
	Gold Support Only	
	E-mail	eec_ap@dell.com
	Phone Numbers	080-25068033 or your city STD code + 60003355 or toll-free: 1-800-425-9045
	XPS Support Only	
	E-mail	Indiamps_AP@dell.com

	Phone Numbers	080-25068066 or toll-free: 1-800-425-2066
	Customer Service	
	Home and Small Business	India_care_HSB@dell.com toll-free: 1800-4254051
	Large Corporate Accounts	India_care_REL@dell.com toll-free: 1800-4252067
	Sales	
	Large Corporate Accounts	1600 33 8044
	Home and Small Business	1600 33 8046
Ireland (Cherrywood) International Access Code: 00 Country Code: 353 City Code: 1	Online Support	support.euro.dell.com dell_direct_support@dell.com
	Technical Support	
	XPS computers only	1850 200 722
	Business computers	1850 543 543
	Home computers	1850 543 543
	At Home Support	1850 200 889
	Sales	
	Home	1850 333 200
	Small Business	1850 664 656
	Medium Business	1850 200 646
	Large Business	1850 200 646
	Sales E-mail	Dell_IRL_Outlet@dell.com
	Customer Service	
	Home and Small Business	01 204 4014
	Business (greater than 200 employees)	1850 200 982
	General	
	Fax/Sales Fax	01 204 0103
	Switchboard	01 204 4444
	U.K. Customer Service (dial within U.K. only)	0870 906 0010
	Corporate Customer Service (dial within U.K. only)	0870 907 4499
	U.K. Sales (dial within U.K. only)	0870 907 4000
Italy (Milan) International Access Code: 00 Country Code: 39 City Code: 02	Online Support	support.euro.dell.com
	Home and Small Business	
	Technical Support	02 577 826 90
	Customer Service	02 696 821 14
	Fax	02 696 821 13
	Switchboard	02 696 821 12
	Corporate	
	Technical Support	02 577 826 90
	Customer Service	02 577 825 55
	Fax	02 575 035 30
Jamaica	Switchboard	02 577 821
	Online Support	la-techsupport@dell.com
Japan (Kawasaki) International Access Code: 001 Country Code: 81 City Code: 44	Technical Support, Customer Service, Sales (dial from within Jamaica only)	1-800-440-9205
	Online Support	support.jp.dell.com
	Technical Support - XPS computers only	toll-free: 0120-937-786
	Technical Support outside of Japan - XPS computers only	81-44-520-1235
	Technical Support - Dimension and Inspiron	toll-free: 0120-198-226
	Technical Support outside of Japan - Dimension and Inspiron	81-44-520-1435
	Technical Support - Dell Precision, OptiPlex, and Latitude	toll-free: 0120-198-433
	Technical Support outside of Japan - Dell Precision, OptiPlex, and Latitude	81-44-556-3894
	Technical Support - Dell PowerApp, Dell PowerEdge, Dell PowerConnect, and Dell PowerVault	toll-free: 0120-198-498
	Technical Support outside of Japan - PowerApp, PowerEdge, PowerConnect, and PowerVault	81-44-556-4162
	Technical Support - Projectors, PDAs, Printers, Routers	toll-free: 0120-981-690
	Technical Support outside of Japan - Projectors, PDAs, Printers, Routers	81-44-556-3468
	Faxbox Service	044-556-3490
	24-Hour Automated Order Status Service	044-556-3801
	Customer Service	044-556-4240
	Business Sales Division - up to 400 employees	044-556-1465
	Preferred Accounts Division Sales - over 400 employees	044-556-3433
	Public Sales - government agencies, educational institutions, and medical institutions	044-556-5963
	Global Segment Japan	044-556-3469
	Individual User	044-556-1657
	Individual User Online Sales	044-556-2203

	Individual User Real Site Sales	044-556-4649
	Switchboard	044-556-4300
Korea (Seoul)	Online Support	support.ap.dell.com
	Technical Support for XPS computers only	toll-free: 080-999-0283
	Technical Support, Customer Service	toll-free: 080-200-3800
	Technical Support - Dimension, PDA, Electronics, and Accessories	toll-free: 080-200-3801
	Sales	toll-free: 080-200-3600
International Access Code: 001		
Country Code: 82	Sales	toll-free: 080-200-3600
	Fax	2194-6202
City Code: 2	Switchboard	2194-6000
Latin America	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	Sales Fax (Austin, Texas, U.S.A.)	512 728-4600
		or 512 728-3772
Luxembourg	Online Support	support.euro.dell.com
	Support	342 08 08 075
	Home/Small Business Sales	+32 (0)2 713 15 96
	Corporate Sales	26 25 77 81
	Customer Service	+32 (0)2 481 91 19
International Access Code: 00		
Country Code: 352	Fax	26 25 77 82
Malaysia (Penang)	Online Support	support.ap.dell.com
	Technical Support - XPS computers only	toll-free: 1 800 885 784
	Technical Support - Dell Precision, OptiPlex, and Latitude	toll-free: 1 800 880 193
	Technical Support - Dimension, Inspiron, and Electronics and Accessories	toll-free: 1 800 881 306
	Technical Support - PowerApp, PowerEdge, PowerConnect, and PowerVault	toll-free: 1800 881 386
International Access Code: 00		
Country Code: 60	Customer Service	toll-free: 1800 881 306 (option 6)
	Transaction Sales	toll-free: 1 800 888 202
City Code: 4	Corporate Sales	toll-free: 1 800 888 213
Mexico	Online Support	www.dell.com/mx
	Technical Support	la-techsupport@dell.com
	Sales	001-866-563-4425
		50-81-8800
		or 001-800-888-3355
International Access Code: 00		
Country Code: 52	Customer Service	001-877-384-8979
		or 001-877-269-3383
	Main	50-81-8800
		or 001-800-888-3355
		or 001-866-851-1754
Montserrat	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-278-6822
Netherlands Antilles	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	001-800-882-1519
Netherlands (Amsterdam)	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	020 674 45 94
	Technical Support	020 674 45 00
	Technical Support Fax	020 674 47 66
	Home/Small Business Customer Service	020 674 42 00
	Relational Customer Service	020 674 4325
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
	Relational Sales Fax	020 674 47 50
	Switchboard	020 674 50 00
	Switchboard Fax	020 674 47 50
New Zealand	Online Support	support.ap.dell.com
		support.ap.dell.com/contactus
	Technical Support for XPS computers only	toll-free: 0800 335 540
International Access Code: 00		
Country Code: 64	Technical Support, Customer Service, Sales	0800 441 567
Nicaragua		www.dell.com/ni
	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	001-800-220-1377
Norway (Lysaker)	Online Support	support.euro.dell.com
	Technical Support for XPS computers only	815 35 043

International Access Code: 00 Country Code: 47	Technical Support	671 16882
	Relational Customer Service	671 17575
	Home/Small Business Customer Service	23162298
	Switchboard	671 16800
	Fax Switchboard	671 16865
Panama	Online Support	www.dell.com/pa la-techsupport@dell.com
	Technical Support, Customer Service, Sales	011-800-507-1264
Peru	Online Support	www.dell.com/pe la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-50-669
Poland (Warsaw) International Access Code: 011 Country Code: 48 City Code: 22	Online Support	support.euro.dell.com pl_support_tech@dell.com
	Customer Service Phone	57 95 700
	Customer Service	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806
	Reception Desk Fax	57 95 998
	Switchboard	57 95 999
	Online Support	support.euro.dell.com
Portugal International Access Code: 00 Country Code: 351	Technical Support	707200149
	Customer Service	800 300 413
	Sales	800 300 410 or 800 300 411 or 800 300 412 or 21 422 07 10
	Fax	21 424 01 12
Puerto Rico	Online Support	www.dell.com/pr la-techsupport@dell.com
	Technical Support	toll-free: 1-866-390-4695 or 1-866-851-1760
	Customer Service and Sales	1-877-537-3355
St. Kitts and Nevis	Online Support	www.dell.com/kn la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-540-3355
St. Lucia	Online Support	www.dell.com/lc la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-464-4352
St. Vincent and the Grenadines	Online Support	www.dell.com/vc la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-464-4353
Singapore (Singapore) International Access Code: 005 Country Code: 65	The phone numbers in this section should be called from within Singapore or Malaysia only.	
	Online Support	support.ap.dell.com
	Technical Support - XPS computers only	toll-free: 1800 394 7464
	Technical Support - Dimension, Inspiron, and Electronics and Accessories	toll-free: 1 800 394 7430
	Technical Support - OptiPlex, Latitude, and Dell Precision	toll-free: 1 800 394 7488
	Technical Support - PowerApp, PowerEdge, PowerConnect, and PowerVault	toll-free: 1 800 394 7478
	Customer Service	toll-free: 1 800 394 7430 (option 6)
	Transaction Sales	toll-free: 1 800 394 7412
	Corporate Sales	toll-free: 1 800 394 7419
Slovakia (Prague) International Access Code: 00 Country Code: 421	Online Support	support.euro.dell.com czech_dell@dell.com
	Technical Support	02 5441 5727
	Customer Service	420 22537 2707
	Fax	02 5441 8328
	Tech Fax	02 5441 8328
	Switchboard (Sales)	02 5441 7585
South Africa (Johannesburg) International Access Code: 09/091 Country Code: 27	Online Support	support.euro.dell.com dell_za_support@dell.com
	Gold Queue	011 709 7713
	Technical Support	011 709 7710
	Customer Service	011 709 7707
	Sales	011 709 7700

City Code: 11	Fax	011 706 0495
	Switchboard	011 709 7700
Southeast Asian and Pacific Countries	Technical Support, Customer Service, and Sales (Penang, Malaysia)	604 633 4810
	Online Support	support.euro.dell.com
Spain (Madrid)	Home and Small Business	
	Technical Support	902 100 130
	Customer Service	902 118 540
	Sales	902 118 541
	Switchboard	902 118 541
	Fax	902 118 539
	Corporate	
	Technical Support	902 100 130
	Customer Service	902 115 236
	Switchboard	91 722 92 00
International Access Code: 00	Fax	91 722 95 83
	Online Support	support.euro.dell.com
Country Code: 34	Technical Support for XPS computers only	77 134 03 40
	Technical Support	08 590 05 199
City Code: 91	Relational Customer Service	08 590 05 642
	Home/Small Business Customer Service	08 587 70 527
Sweden (Upplands Vasby)	Employee Purchase Program (EPP) Support	020 140 14 44
	Technical Support Fax	08 590 05 594
International Access Code: 00	Sales	08 587 705 81
	Online Support	support.euro.dell.com
Country Code: 46	Technical Support for XPS computers only	Tech_support_central_Europe@dell.com
	Technical Support - Home and Small Business	0848 338 857
City Code: 8	Technical Support - Corporate	0844 811 411
	Customer Service - Home and Small Business	0844 822 844
Switzerland (Geneva)	Customer Service - Corporate	0848 802 202
	Customer Service - Corporate	0848 821 721
International Access Code: 00	Main	0848 335 599
	Fax	022 799 01 90
Country Code: 41	Sales	022 799 01 01
	Online Support	support.ap.dell.com
City Code: 22	Technical Support - XPS computers only	support.dell.com.cn/email
	Technical Support - OptiPlex, Latitude, Inspiron, Dimension, and Electronics and Accessories	toll-free: 0080 186 3085
Taiwan	Technical Support - Servers and Storage	toll-free: 0080 186 1011
	Customer Service	toll-free: 0080 160 1256
International Access Code: 002	Transaction Sales	toll-free: 0080 160 1250 (option 5)
	Corporate Sales	toll-free: 0080 165 1228
Country Code: 886	Online Support	toll-free: 0080 165 1227
	Technical Support (OptiPlex, Latitude, and Dell Precision)	support.ap.dell.com
Thailand	Technical Support (PowerApp, PowerEdge, PowerConnect, and PowerVault)	toll-free: 1800 060 07
	Customer Service	toll-free: 1800 060 09
International Access Code: 001	Corporate Sales	toll-free: 1800 006 007 (option 7)
	Transaction Sales	toll-free: 1800 006 009
Country Code: 66	Online Support	toll-free: 1800 006 006
	Technical Support, Customer Service, Sales	www.dell.com/tt
Trinidad/Tobago	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-888-799-5908
Turks and Caicos Islands	Online Support	www.dell.com/tc
	Technical Support, Customer Service, Sales	la-techsupport@dell.com
U.K. (Bracknell)	Online Support	toll-free: 1-877-441-4735
	Customer Service Online support.euro.dell.com/uk/en/ECare/form/home.asp	support.euro.dell.com
	Sales	dell_direct_support@dell.com
	Home and Small Business Sales	
	Corporate/Public Sector Sales	0870 907 4000
	Customer Service	01344 860 456
	Home and Small Business	
	Corporate	0870 906 0010
	Preferred Accounts (500-5000 employees)	01344 373 185
	Global Accounts	0870 906 0010
International Access Code: 00		01344 373 186
Country Code: 44		

City Code: 1344	Central Government	01344 373 193
	Local Government & Education	01344 373 199
	Health	01344 373 194
	Technical Support	
	XPS Computers Only	0870 366 4180
	Corporate/Preferred Accounts/PCA (1000+ employees)	0870 908 0500
	Other Dell Products	0870 353 0800
	General	
	Home and Small Business Fax	0870 907 4006
		www.dell.com/uy
Uruguay	Online Support	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 000-413-598-2521
U.S.A. (Austin, Texas) International Access Code: 011 Country Code: 1	Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-877-DELLTTY (1-877-335-5889)
	Fax	toll-free: 1-800-727-8320
	Technical Support	support.dell.com
	XPS	toll-free: 1-800-232-8544
	Home and Home Office	toll-free: 1-800-624-9896
	Portable and Desktop AutoTech	toll-free: 1-800-247-9362
	Small Business	toll-free: 1-800-456-3355
	Medium and Large Business	toll-free: 1-877-671-3355
	State and Local Government	toll-free: 1-800-981-3355
	Federal Government	toll-free: 1-800-727-1100
	Healthcare	toll-free: 1-800-274-1550
	K-12 Education	toll-free: 1-888-977-3355
	Higher Education	toll-free: 1-800-274-7799
	Printers, Projectors, PDAs, and MP3 Players	toll-free: 1-877-459-7298
	Customer Service	toll-free: 1-800-624-9897
	Automated Order Status	toll-free: 1-800-433-9014
	Small Business	toll-free: 1-800-456-3355
	Medium and Large Business	toll-free: 1-877-671-3355
	State and Local Government	toll-free: 1-800-981-3355
	Federal Government	toll-free: 1-800-727-1100
	Healthcare	toll-free: 1-800-274-1550
	K-12 Education	toll-free: 1-888-977-3355
	Higher Education	toll-free: 1-800-274-7799
	Employee Purchase Program (EPP)	toll-free: 1-800-695-8133
	Financial Services	www.dellfinancialservices.com
	Leases and Loans	toll-free: 1-877-577-3355
	Dell Preferred Accounts (DPA)	toll-free: 1-800-283-2210
	Sales	1-800-289-3355 or 1-800-879-3355
	Dell Outlet Store	toll-free: 1-888-798-7561
	Software and Peripherals Sales	toll-free: 1-800-671-3355
U.S. Virgin Islands	Online Support	www.dell.com/vi la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-877-702-4360
Venezuela	Online Support	www.dell.com/ve la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-100-4752

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Setting Up Your Monitor

Dell™ E228WFP Flat Panel Monitor

If you have a Dell™ desktop with no internet access

1. Right-click on the desktop and click **Properties**.
2. Select the **Settings** tab.
3. Select **Advanced**. if you are using Windows XP, click the **Adapter** tab.
4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
5. Follow the directions listed below for your identified Graphics Adapter:
 - o **ATI:**
 1. [ATI Folder on the CD](#) (**RADEON & RAGE family only; excludes mobile and FireGL platforms**).
 2. Run the installation by double clicking the executable file.
 3. After installing the drivers, attempt to set the resolution to 1680x1050 again.
 - o **NVIDIA:**
 1. [NVIDIA folder on the CD](#) (**GEFORCE & TNT2 family only; excludes mobile and QUADRO chipsets**).
 2. Run the installation by double clicking the executable file.
 3. After installing the drivers, attempt to set the resolution to 1680x1050 again.



NOTE: If you are unable to set the resolution to 1680x1050, please contact Dell™ to inquire about a Graphics Adapter that supports these resolutions.

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Setting Up Your Monitor

Dell™ E228WFP Flat Panel Monitor

If you have a Dell™ desktop or a Dell™ portable computer with internet access

1. Go to <http://support.dell.com>, enter your service tag, and download the latest driver for your graphics card.
2. After installing the drivers for your Graphics Adapter, attempt to set the resolution to **1680x1050** again.



NOTE: If you are unable to set the resolution to 1680x1050, please contact Dell™ to inquire about a Graphics Adapter that supports these resolutions.

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Setting Up Your Monitor

Dell™ E228WFP Flat Panel Monitor

If you have non Dell™ desktop, portable computer, or graphic card

1. Right-click on the desktop and click **Properties**.
2. Select the **Settings** tab.
3. Select **Advanced**.
4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
5. Please refer to the graphic card provider website for updated driver (for example, <http://www.ATI.com> OR <http://www.NVIDIA.com>).
6. After installing the drivers for your Graphics Adapter, attempt to set the resolution to **1680x1050** again.



NOTE: If you are unable to set the resolution to 1680x1050, please contact the manufacturer of your computer or consider purchasing a graphics adapter that will support the video resolution of 1680x1050.

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Setting Up Your Monitor

Dell™ E228WFP Flat Panel Monitor

Important instructions and graphic drivers to set the display resolution to 1680X1050 (Optimal)

For optimal display performance while using the Microsoft Windows® operating systems, set the display resolution to 1680 x 1050 pixels by performing the following steps:

1. Right-click on the desktop and click **Properties**.
2. Select the **Settings** tab.
3. Move the slider-bar to the right by pressing and holding left-mouse button and adjust the screen resolution to **1680X1050**.
4. Click **OK**.

If you do not see **1680X1050** as an option, you may need to update your graphics driver. Please choose the scenario below that best describes the computer system you are using, and follow the provided directions:

- 1: [If you have a Dell™ desktop with no internet access.](#)
 - 2: [If you have a Dell™ desktop or a Dell™ portable computer with internet access.](#)
 - 3: [If you have non Dell™ desktop, portable computer, or graphic card.](#)
-

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Dell™ E228WFP Flat Panel Color Monitor

• [User Guide](#)

• [Important instructions and graphic drivers to set the display resolution to 1680x1050 \(Optimal\)](#)

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Model E228WFP

November 2006 Rev. A00

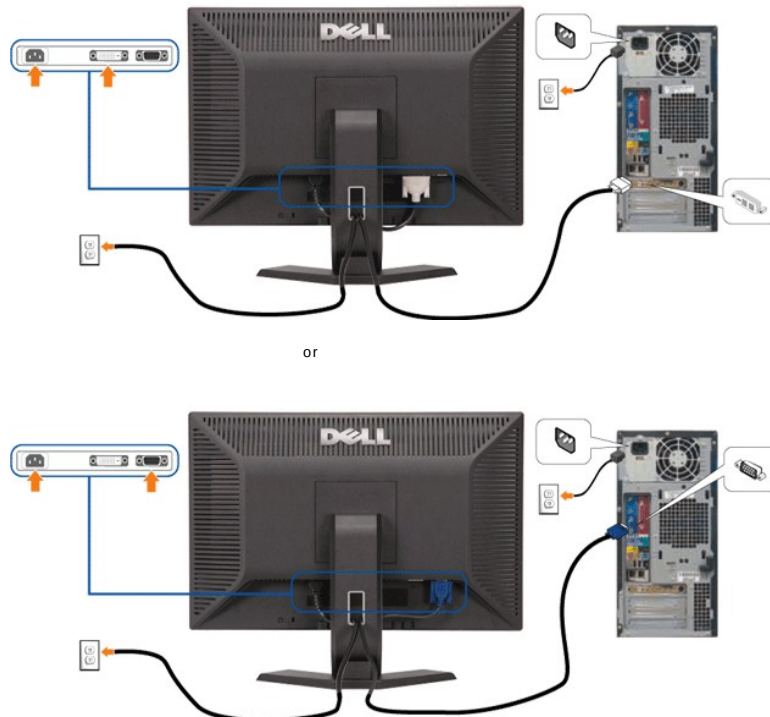
Setting Up Your Monitor

Dell™ E228WFP Flat Panel Monitor User's Guide

- [Connecting Your Monitor](#)
 - [Using the Front Panel](#)
 - [Using the OSD Menu](#)
 - [Setting the Optimal Resolution](#)
 - [Using the Dell Soundbar \(Optional\)](#)
-

Connecting Your Monitor

⚠ CAUTION: Before you begin any of the procedures in this section, follow the [safety instructions](#).

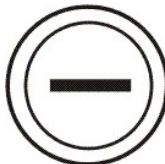


To connect your monitor to the computer perform the following steps/instructions.

1. Turn off your computer and disconnect the power cable.
 2. Connect either the white DVI or the blue VGA cable to the connectors on the computer and the monitor.
 3. Connect the power cables.
 4. Turn on your monitor and, computer. If you do not see an image, push the input select button and ensure the correct input source is selected. If you still do not see an image, see [Troubleshooting your monitor](#).
-

Using the Front Panel Button

Use the buttons on the front of the monitor to adjust the image settings.

		    						
		A	B	C	D	E		
A	 Input select	Use the Input Select button to select between two different video signals that may be connected to you Description of auto- sync detect: If both VGA and DVI cables are connected to one PC, this monitor will image automatically just as long as a video signal is present in either VGA or DVI outputs. When connect display to two PCs, if using screen savers, best to set both to the exact times. Whichever mouse is move activate that video input first.  NOTE: The floating 'Dell Self-test Feature Check' dialog appears on a black background if the cannot sense a video signal. Using the input select button, select the desired input to be teste Analog Input or Digital Input. Disconnect the video cable from the video card and the Dell Se Feature Check dialogue box will appear if the display is operating correctly.  1: Auto Detect (Analog Input) Self Test Feature Check Red Green Blue White or  1: Auto Detect (Digital Input) Self Test Feature Check Red Green Blue White or  2: Analog Input Self Test Feature Check Red Green Blue White or  3: Digital Input Self Test Feature Check Red Green Blue White						
		B	 OSD menu / select	The Menu button is used to open and exit the on-screen display (OSD), and exit from menus and sub-m Using the OSD Menu.				
		C	 Brightness/Contrast Hot Key	Use this button for direct access to the "Brightness" and "Contrast" control menu.				
C, D	 Down (-) and Up (+)	Use these buttons to adjust (decrease/increase ranges) items in the OSD menu.  NOTE: You can activate automatic scroll feature by pressing and holding either + or - button.						

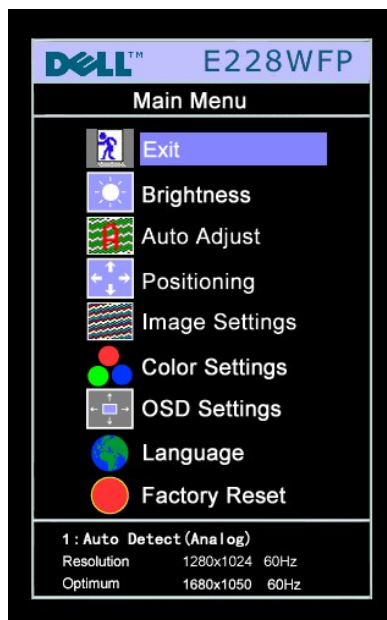
D	 Auto Adjust	Use this button to activate automatic setup and adjust menu. The following dialog appears on a black s Auto Adjust In Progress Auto Adjustment allows the monitor to self-adjust to the incoming video signal. After using Auto Adjustn further tune your monitor by using the Pixel Clock (Coarse) and Phase (Fine) controls under Image Sett  NOTE: Auto Adjust will not occur if you press the button while there are no active video input or attached cables.
E	 Power Button and Indicator	Use the power button to turn the monitor on and off. The green light indicates the monitor is on and fully functional. An amber light indicates power save mo

Using the OSD Menu

 **NOTE: If you change the settings and then either proceed to another menu or exit the OSD menu, the monitor automatically saves those changes. The changes are also saved if you change the settings and then wait for the OSD menu to disappear.**

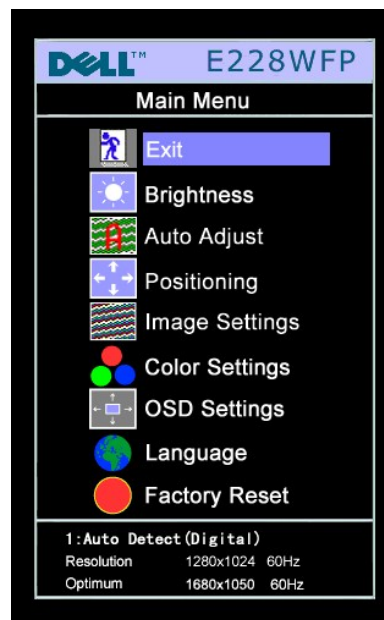
1. Push the MENU button to open the OSD menu and display the main menu.

Main Menu for Auto Detect Analog (VGA) Input



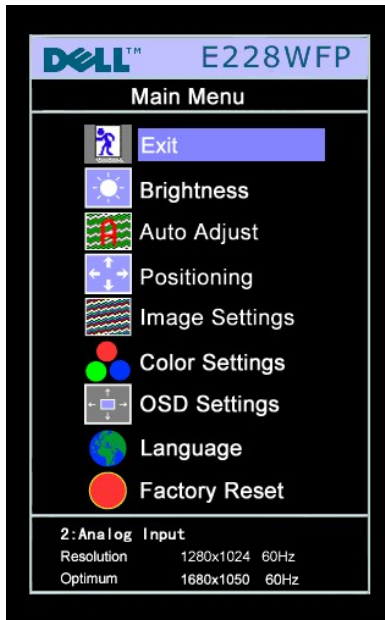
Main Menu for Analog (VGA) Input

Main Menu for Auto Detect Digital (DVI) Input

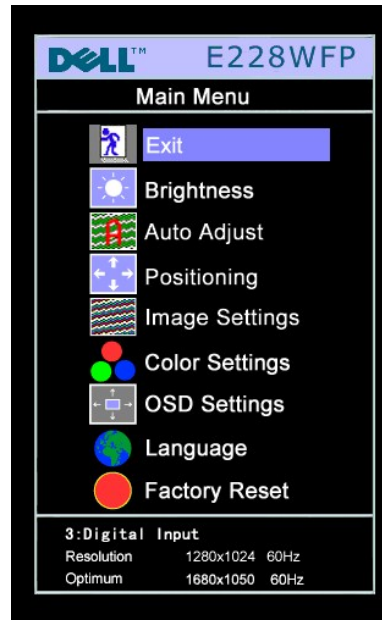


Main Menu for digital (DVI) Input

or



or

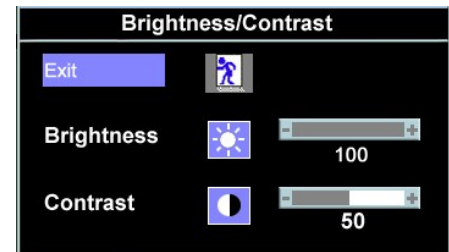


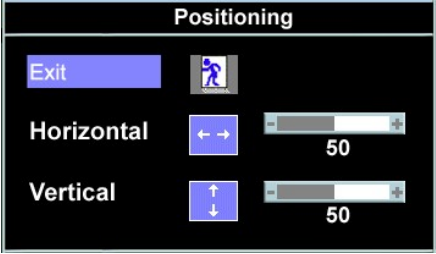
NOTE: Auto Adjust, Positioning and Image Settings are only available when you are using the analog (VGA) connector.

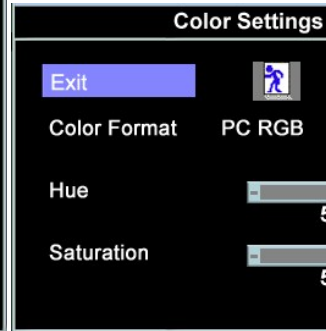
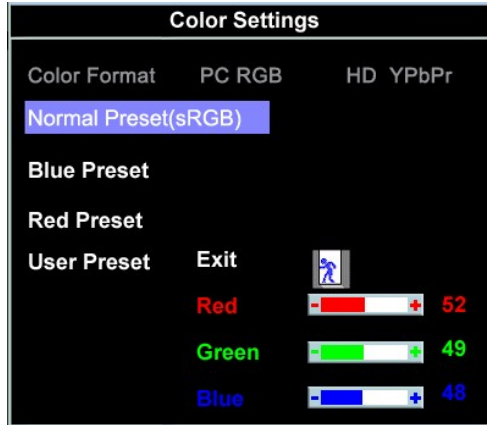
2. Push the - and + buttons to move between the setting options. As you move from one icon to another, the option name is highlighted. See the table below for a complete list of all the options available for the monitor.
3. Push the MENU button once to activate the highlighted option.
4. Push - and + button to select the desired parameter.
5. Push MENU to enter the slide bar and then use the - and + buttons, according to the indicators on the menu, to make your changes.
6. Push the MENU button once to return to the main menu to select another option or push the MENU button two or three times to exit from the OSD menu.

When the OSD is locked, pressing the menu button takes the user directly to the OSD settings menu, with OSD Lock selected. Select No (-) to unlock and allow user access to all applicable settings.

Icon	Menu and Submenus	Description
	Exit	Select to exit the Main menu.
	Brightness/Contrast	Brightness adjusts the luminance of the backlight. Adjust Brightness first, then adjust Contrast only if further adjustment is necessary. Push the + button to increase luminance and push the - button to decrease luminance (min 0 ~ max 100) Contrast adjusts the degree of difference between darkness and lightness on the monitor screen. Push the + button to increase the contrast and push the - button to decrease the contrast (min 0 ~ max
	Positioning: Horizontal Vertical	Positioning moves the viewing area around on the monitor screen. When making changes to either the Horizontal or Vertical settings, no changes occur to the size of the vie selection. Minimum is 0 (-) and maximum is 100 (+).



		 Positioning Exit  Horizontal  50 Vertical  50 NOTE: When using DVI source, the Positioning option is not available.
	Auto Adjust	Even though your computer recognizes your monitor on startup, the Auto Adjustment function optimizes the setup. Select to activate automatic setup and adjustment. The following dialog appears on a black screen as the Auto Adjustment allows the monitor to self-adjust to the incoming video signal. After using Auto Adjust, use the Pixel Clock (Coarse) and Phase (Fine) controls under Image Settings. NOTE: In most cases, Auto Adjust produces the best image for your configuration. NOTE: When using DVI source, the Auto Adjust is not available.
	Image settings: Pixel Clock (Coarse) Phase (Fine)	The Phase and Pixel Clock adjustments allow you to more closely adjust your monitor to your preference. OSD menu, by selecting Image Settings. Use the - and + buttons to make adjustments. (Minimum: 0 ~ Maximum: 100) If satisfactory results are not obtained using the Phase adjustment, use Pixel Clock (Coarse) and then use NOTE: This function may change the width of the display image. Use the Horizontal function of the display image on the screen. NOTE: When using DVI source, the Image Settings option is not available.
	Color Settings	Color Settings adjusts the color temperature, color hue, and saturation. The color hue is most noticeable in areas of white.



NOTE: Pixel Clock and Phase Adjustments are only available for "VGA" input. .

Color Format

- To achieve the different color domain for PC RGB and HD YPbPr (HD YPbPr is suitable for HD video p PC graphics display over DVI.).

Blue Preset

- Blue Preset is selected to obtain a bluish tint. This color setting is typically used for text based appl editors, etc.).

Red Preset

- Red Preset is selected to obtain a redder tint. This color setting is typically used for color-intensive multimedia, movies, etc.).

Normal Preset

- Normal Preset is selected to obtain the default (factory) color settings. This setting is also the "sRG

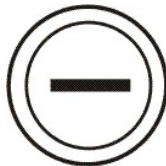
User Preset

- User Preset: Use the plus and minus buttons to increase or decrease each of the three colors (R, G, from 0 to 100).

Hue

- This feature can make color shift of video image to green or purple. This is used to adjust for desire from '0' to '100'.

Saturation

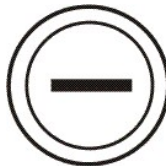


makes video image shade into greenish.



makes video image shade into purplish.

NOTE: Hue adjustment only available for video playback via DVI using HD YPbPr.



makes video image looks more monochrome.



makes video image looks more colorful.

NOTE: Saturation adjustment only available for video playback via DVI using HD YPbPr.

	OSD Settings: Horizontal Position Vertical Position OSD Hold Time OSD Lock	Adjust the settings for the OSD, including the location and the amount of time the menu remains on-screen. Position of the OSD: - To adjust the horizontal position of the OSD, use the - and + buttons, and move OSD to the left and right. - To adjust the vertical position of the OSD, use the - and + buttons, and move OSD down and up. OSD Hold Time: The OSD stays active for as long as it is in use. Adjusting the hold time, sets the length of time the OSD remains on-screen after a button is pressed. Use the - and + buttons to adjust the slider in 5 second increments, from 5 to 60 seconds. OSD Lock: Controls user access to adjustments. When Yes (+) is selected, no user adjustments are allowed. All buttons are disabled.  NOTE: When the OSD is locked, pressing the menu button takes the user directly to the OSD settings menu. Pressing the menu button No (-) to unlock and allow user access to all applicable settings. On Screen Display (OSD) Exit  Horizontal Position  50 Vertical Position  50 OSD Hold Time  20 Sec OSD Lock  - No Yes +
---	--	--



Factory Reset:

Reset the OSD menu options to the factory preset values.

Reset to Factory Settings



Exit



Position Settings Only



Color Settings Only



All Settings

DDC/CI - Enable
Disable

Exit — Select to exit out of Reset to Factory Settings menu without resetting any OSD options.

Position settings only — Change the settings for Image Position back to original factory settings.

Color settings only — Change the Red, Green, and Blue settings back to their original factory settings and

All settings — Change all the user-adjustable settings including color, position, brightness, contrast, and language of the OSD does not change.

DDC/CI: — Enable the DDC/CI control function.

DDC/CI (Display Data Channel/Command Interface) allows your monitor parameters (brightness, color balance) to be adjusted from a PC.

Default is "Enable". You can disable this feature by selecting "Disable".

For best user experience and optimum performance of your monitor, keep this feature enabled.

 **NOTE:** If user select "Disable", display Warning message box as below. Select "Yes" to disable DDC/CI and return to "Reset to Factory Settings" menu. Warning message time-out in 20 sec.

The function of adjusting display settings using PC applications will be disabled.

Do you want to disable DDC/CI?

- No
Yes +

OSD Warning Messages

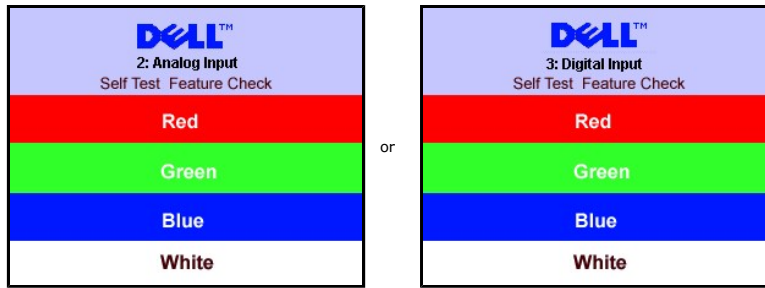
One of the following warning messages may appear on the screen indicating that the monitor is out of synchronization.

1: Auto Detect (Analog Input) Cannot Display This Video Mode Optimum resolution 1680 x1050 60Hz	or	1: Auto Detect (Digital Input) Cannot Display This Video Mode Optimum resolution 1680 x1050 60Hz
2: Analog Input Cannot Display This Video Mode Optimum resolution 1680 x1050 60Hz	or	3: Digital Input Cannot Display This Video Mode Optimum resolution 1680 x1050 60Hz

This means that the monitor cannot synchronize with the signal that it is receiving from the computer. Either the signal is too high or too low for the monitor to use. See [Specifications](#) for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1680 X 1050 @ 60Hz.

 **NOTE:** The floating Dell Self-test Feature Check dialog appears on-screen if the monitor cannot sense a signal cable .

DELL™ 1: Auto Detect (Analog Input) Self Test Feature Check Red Green Blue White	or	DELL™ 1: Auto Detect (Digital Input) Self Test Feature Check Red Green Blue White
---	----	--



Occasionally, no warning message appears, but the screen is blank. This could also indicate that the monitor is not synchronizing with the computer.

See [Solving Problems](#) for more information.

Setting the Optimal Resolution

1. Right-click on the desktop and select **Properties**.
2. Select the **Settings** tab.
3. Set the screen resolution to 1680 x 1050, 60Hz
4. Click **OK**.

If you do not see 1680 x 1050 as an option, you may need to update your graphics driver. Depending on your computer, complete one of the following procedures.

If you have a Dell desktop or portable computer:

- o Go to support.dell.com, enter your service tag, and download the latest driver for your graphics card.

If you are using a non-Dell computer (portable or desktop):

- o Go to the support site for your computer and download the latest graphic drivers.
- o Go to your graphics card website and download the latest graphic drivers.

Using the Dell Soundbar (Optional)

The Dell SoundBar is a stereo two channel system adaptable to mount on Dell Flat Panel Displays. The SoundBar has a rotary volume and on/off control to adjust the overall system level, a blue LED for power indication, and two audio headset jacks.



1. Power/volume control
2. Power indicator
3. Headphone connectors

Soundbar Attachment to the Monitor





1. Working from the rear of the monitor, attach Soundbar by aligning the two slots with the two tabs along the bottom rear of the monitor.
2. Slide the Soundbar to the left until it snaps into the place.
3. Connect the soundbar with the power brick.
4. Plug the power cables of the power brick into a nearby outlet.
5. Insert the lime green mini stereo plug from the rear of the Soundbar into the computer's audio output jack.

 **NOTE:** The graphic is for illustration only. Product appearance may vary.

 **NOTE:** The base removal is not necessary to install the soundbar. Shown with base detached for illustration purposes only.

Solving Problems

Dell™ E228WFP Flat Panel Monitor User's Guide

- [Troubleshooting Your Monitor](#)
- [General Problems](#)
- [Product Specific Problems](#)
- [Troubleshooting Your Soundbar](#)

CAUTION: Before you begin any of the procedures in this section, follow the [safety instructions](#).

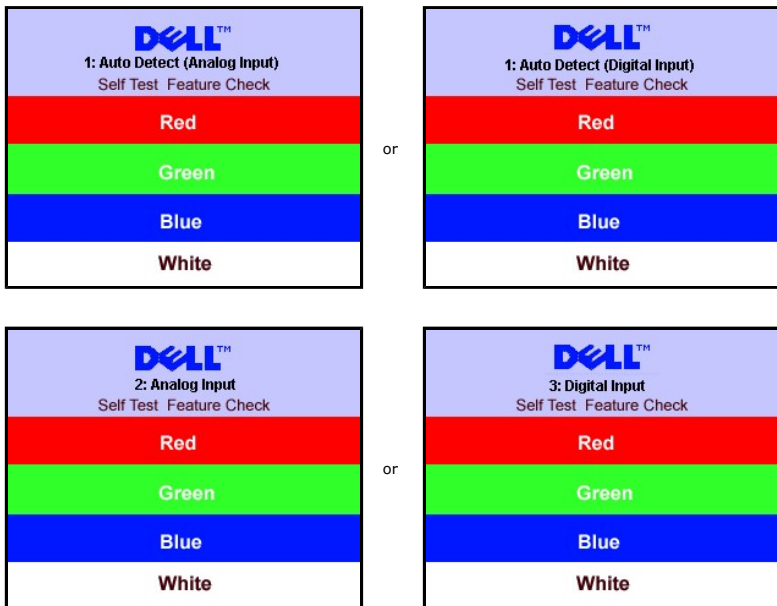
Troubleshooting Your Monitor

Self-Test Feature Check (STFC)

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and monitor.
2. Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove both Digital (white connector) and the Analog (blue connector) cables from the back of the computer.
3. Turn on the monitor.

NOTE: The floating 'Dell Self-test Feature Check' dialog box should appear on-screen on a black background if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains green. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.



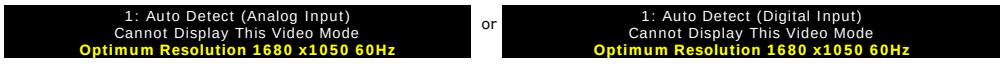
This box also appears during normal system operation if the video cable becomes disconnected or damaged.

4. Turn off your monitor and reconnect the video cable, then turn on both your computer and the monitor.

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer system; your monitor is functioning properly.

OSD Warning Messages

One of the following warning messages may appear on the screen indicating that the monitor is out of synchronization.



2: Analog Input
Cannot Display This Video Mode
Optimum Resolution 1680 x1050 60Hz

or

3: Digital Input
Cannot Display This Video Mode
Optimum Resolution 1680 x1050 60Hz

This means that the monitor cannot synchronize with the signal that it is receiving from the computer. Either the signal is too high or too low for the monitor to use. See [Monitor Specifications](#) for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1680 X 1050 @ 60Hz.

Occasionally, no warning message appears, but the screen is blank. This could also indicate that the monitor is not synchronizing with the computer or that the monitor is in a power save mode.

General Problems

The following table contains general information about common monitor problems you might encounter.

COMMON SYMPTOMS	PROBLEM DESCRIPTION	POSSIBLE SOLUTIONS
No Video/Power LED off	No picture, monitor is dead	Check connection integrity at the both ends of the video cable, verify that the monitor and computer are plugged into a working electrical outlet, and that you have pressed the power button.
No Video/Power LED on	No picture or no brightness	- Press the input select button in the front of the monitor and ensure the correct input source is selected. - Increase brightness & contrast controls. - Perform monitor self-test feature check. - Check for bent or broken pins on the end of the video cable. - Reboot your computer and monitor.
Poor Focus	Picture is fuzzy, blurry, or ghosting	- Push Auto Adjust button. - Adjust Phase and Clock controls via OSD. - Eliminate video extension cables. - Perform monitor reset. - Lower video resolution or increase font size.
Shaky/Jittery Video	Wavy picture or fine movement	- Push Auto Adjust button. - Adjust Phase and Clock controls via OSD. - Perform monitor reset. - Check environmental factors. - Relocate and test in another room.
Missing Pixels	LCD screen has spots	- Cycle power on-off - These are pixels that are permanently off and this is a natural defect that occurs in LCD technology.
Brightness Problems	Picture too dim or too bright	- Perform monitor reset. - Push Auto Adjust button. - Adjust brightness & contrast controls.
Geometric Distortion	Screen not centered correctly	- Perform monitor reset on "Position Settings Only". - Push Auto Adjust button. - Adjust the centering controls. - Ensure monitor is in proper video mode.
Horizontal/Vertical Lines	Screen has one or more lines	- Perform monitor reset. - Push Auto Adjust button. - Adjust Phase and Clock controls via OSD. - Perform monitor self-test feature check and determine if these lines are also in self-test mode. - Check for bent or broken pins.
Sync Problems	Screen is scrambled or appears torn	- Perform monitor reset. - Push Auto Adjust button. - Adjust Phase and Clock controls via OSD. - Perform monitor self-test feature check to determine if scrambled screen appears in self-test mode. - Check for bent or broken pins. - Boot up in the "safe mode".
LCD Scratched	Screen has scratches or smudges	- Turn monitor off and clean the screen. - For cleaning instruction, see Caring for your Monitor.
Safety Related Issues	Visible signs of smoke or sparks	- Do not perform any troubleshooting steps. - Monitor needs to be replaced.
Intermittent Problems	Monitor malfunctions on and off	- Ensure monitor is in proper video mode. - Ensure video cable connection to computer and to the flat panel is secure. - Perform monitor reset. - Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Image Retention (from a static image)	Faint Shadow from the static image	Use the Power Management feature to turn off the monitor at all times

left on the monitor for a long period of time)	displayed appears on the screen	when not in use. Alternatively, use a dynamically changing screensaver. NOTE: Image Burn-In is not covered by your warranty.
Input auto switching to another source	Can't select input source	Under "Auto Detect" mode if one of the DVI or VGA signal is lost (or cable disconnected) the display will automatically switch to the other input source where a signal exist.

Product Specific Problems

SPECIFIC SYMPTOMS	WHAT YOU EXPERIENCE	POSSIBLE SOLUTIONS
Screen image is too small	Image is centered on screen, but does not fill entire viewing area.	Perform monitor reset on "All Settings."
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen.	Turn off the monitor, unplug the power cord and then plug back and turn on the monitor.

Troubleshooting Your Soundbar

COMMON SYMPTOMS	WHAT YOU EXPERIENCE	POSSIBLE SOLUTIONS
No Sound	No power to Soundbar - the power indicator is off.	- Turn the Power/Volume knob on the Soundbar clockwise - check if the power indicator (green LED) on the front of the Soundbar is on - Confirm that the power cable from the Soundbar is plugged into a power outlet - Confirm that the monitor has power. - If the monitor has no power, see Troubleshooting your monitor for more information.
No Sound	Soundbar has power - power indicator is on.	- Plug the audio line-in cable into the computer's audio output jack - Set all Windows volume controls to their maximum. - Play some audio content on the computer (i.e. audio CD, MP3 file, etc.) - Turn the Power/Volume knob on the Soundbar clockwise to maximum - Clean and reseal the audio line-in plug. - Test the Soundbar using another audio source (i.e. portable music player)
Distorted Sound	Computer's sound card is used as the audio source.	- Clear any obstructions between the Soundbar and the computer - Confirm that the audio line-in plug is completely inserted into the sound card - Set all Windows volume controls to their midpoints. - Decrease the volume of the audio application. - Turn the Power/Volume knob on the Soundbar counter-clockwise to minimum - Clean and reseal the audio line-in plug. - Troubleshoot the computer's sound card. - Test the Soundbar using another audio source (i.e. portable music player)
Distorted Sound	Other audio source is used.	- Clear any obstructions between the Soundbar and the audio source - Confirm that the audio line-in plug is completely inserted into the audio source - Decrease the volume of the audio source. - Turn the Power/Volume knob on the Soundbar counter-clockwise to minimum - Clean and reseal the audio line-in plug.
Unbalanced Sound Output	Sound from only one side of Soundbar	- Clear any obstructions between the Soundbar and the computer - Confirm that the audio line-in plug is completely inserted into the sound card or audio source - Set all Windows audio balance controls (L-R) to their neutral position - Clean and reseal the audio line-in plug. - Troubleshoot the computer's sound card. - Test the Soundbar using another audio source (i.e. portable music player)
Low Volume	Volume is too low.	- Clear any obstructions between the Soundbar and the computer - Turn the Power/Volume knob on the Soundbar clockwise to maximum - Set all Windows volume controls to their maximum. - Increase the volume of the audio application. - Test the Soundbar using another audio source (i.e. portable music player)

Using Your Monitor Stand

Dell™ E228WFP Flat Panel Monitor User's Guide

- [Attaching the Stand](#)
 - [Organizing Your Cables](#)
 - [Using the Tilt](#)
 - [Removing the Stand](#)
-

Attaching the Stand

 NOTE: Stand is detached when the monitor is shipped from the factory.



1. Place the stand on a flat surface.
 2. Fit the groove on the back of the monitor onto the two tabs of the stand.
 3. Lower the monitor so that the monitor mounting area snaps on/locks to stand.
-

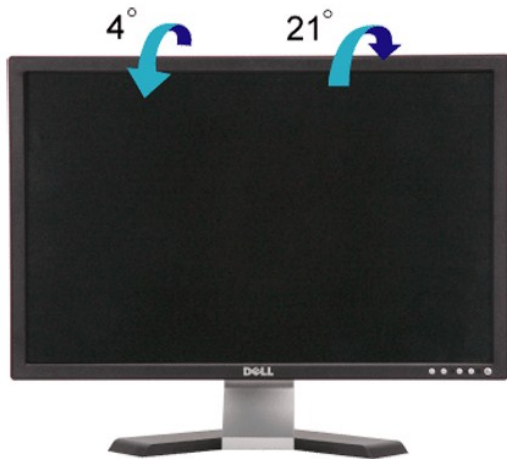
Organizing Your Cables



After attaching all necessary cables to your monitor and computer, (See [Connecting Your Monitor](#) for cable attachment,) use the cable management hole to neatly organize all cables as shown above.

Using the Tilt

With the built-in pedestal, you can tilt the monitor for the most comfortable viewing angle.



Removing the Stand

After placing the monitor panel on a soft cloth or cushion, press and hold the stand removal button, and then remove the stand.



 NOTE: To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a clean surface.

[Back to Contents Page](#)